THE VETERINARY RECORD

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Edited by William Hunting, F.R.C.V.S.

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Veterinary Inspection at Shows.

At the last annual meeting of the National Veterinary Association, held in Edinburgh, resolutions were carried to the effect—"that horses exhibited at agricultural shows or other exhibitions in Scotland should be submitted to a veterinary examination," and that "stringhalt and shivering should be included among the registered diseases." The object of these resolutions was simply to impress upon the authorities who are concerned with the soundness of horses the importance of not giving prizes to unsound animals. A prize horse at a large show is publicly certified as a superior animal, and consequently its stock is sought after at an enhanced price. If no care is taken to eliminate from the prize list horses suffering from hereditary unsoundness it is obvious that harm is done to the breed. In England and in Ireland authorities have recognised that veterinary examination is a good thing, and the improvement of breeds—at any rate their increased soundness—in consequence of such examination is a fact fully acknowledged. Scotland alone refuses to be assisted by veterinary experts, with the result that defects of wind, hocks, and coronets prevail in Scotch breeds far more widely than in other divisions of the kingdom.

Why reform in such a simple but important matter should be opposed is a mystery. Probably breeders of horses in Scotland have greater power in the regulation of shows than they have in England, and self-interest of the narrowest and most short-sighted kind blinds them to the value of the reform. No one will suggest that it is want of information or intelligence – in these Scotland is pre-eminent. Unfortunately the northern part of the kingdom has for some generations been almost as much under the thumb of the "meenister" as Spain and Italy under the priest. That this may have something to do with the decay of horse-breeding is suggested by the way in which the Highland and Agricultural Society received the resolution of the veterinary surgeons. The resolution was read and only one speaker noticed it. He was a "meenister," and he remarked that it would be quite time enough to consider such a resolution when veterinary surgeons agreed among themselves what was soundness or unsoundness. That a stupid and inconsequent remark of this kind should prevent further consideration is rather a reflection upon the intelligence of his audience.

If it were applied to the members of the Rev. Dr. Gillespie's calling with like effect Scotland would soon be a godless country—and perhaps no worse for that.

A CASE OF OPEN SHOULDER JOINT.

By Edward G. Johnson, M.R.C.V.S., Sheffield.

On August 15th last I was called to attend a chestnut 4 years old cob in a field, where it had been badly kicked in the shoulder by another horse, which had strayed out of a neighbour's field. As the animal could not walk but could stand and graze, and the field was close at hand, it was decided that we were to treat where it was for the time being. There was evidently severe bruising over the shoulder point, and a punctured wound, probably done by the "calkin" of a shoe. I did not probe the wound, for obvious reasons, but thoroughly cleansed and dressed it as well as we could, and my assistant attended to it twice daily. For a few days considerable improvement was shown, the animal used the leg, putting weight upon it and walking. About a week aferwards I detected indications of synovia in the discharge and the case got worse. I now had the horse brought into my infirmary and reported the unfavourable change to the owner. Later on the case got so bad that in spite of every care in treatment the synovial discharge increased and pumped out at every movement of the limb in a stream as thick as one's little finger, with great pain and systemic disturbance, etc. So hopeless did the case appear that if it had been my own I should have destroyed it, and I should have advised the owner to destroy it but, (and herein lies the interesting feature of the case), he was taking legal action against the unfortunate owner of the animal that did the mischief, and in the hope of helping to bring about an amicable settlement between the parties, both of whom were clients of mine, I struggled on with treatment, and hoped to save something for one or both of them (if it were only law expenses)! During the legal negotiations some weeks later, I was delighted to observe signs of improvement. About this time it was quite amusing to have peremptory instructions from the plaintiff's lawyer that as the animal could not walk to be sold by auction it would have to be destroyed, and I was to order that to be done, etc. My reply was that I was the V.S.—not V.S. and *Lawyer*, and as the former *only*, I was trying to cure it, and hoped to succeed; and certainly, under the circumstances, I could not see my way to advise slaughtering the animal —but if the lawyer were disposed to act *as V.S. as well* he could order its destruction, and have it carried out if the plaintiff thought proper—I should raise no objection. Needless to say the animal was not destroyed.

By-and-by the case improved considerably, and a compromise was effected between the parties—to

which I need make no further reference. The legal dispute was really the great motive in saving the animal if possible; result being that the case finally yielded to our treatment and is now almost completely recovered.

My special object, however, in detailing this case is that although some may say "there is nothing remarkable in such a case recovering," others, like myself, would probably have destroyed such a case as hopeless; and we therefore learn from this case that in bad cases, and this was a very bad one, the shoulder becoming much enlarged, with great heat and pain, synovia pouring out of the wound, no use of the limb, emaciation, loss of appetite, angry pulse, etc.,—we are encouraged to take a more hopeful view. I don't think I need make any allusion to the treatment adopted in this case, seeing that it consisted of ordinary measures, including "slinging," antiseptic and antiphlogistic measures, sedatives and blistering, etc.

Perhaps it is worth noting that when every other treatment had apparently failed, as a *dernier ressort* I ordered a powder consisting of Hydrarg. bichlor., Farina trit. and Arm. Bol. to be dusted on frequently during the day. After this had been applied about 7 days improvement was noticed, and nothing else was applied until the discharge gradually ceased, the inflammation subsided, and the use of the limb was regained by degrees. Walking exercises, cold-water douching, handrubbing (with Iod. Oint.), and finally a Bin. Iod. blistering has completed the cure. The powder is nothing new, of course. I remember getting successful results from it's use years ago. My predecessor applied it with success in open stifle and knee joint cases. His theory was that Hydrarg. bichlor. coagulated the synovia and formed a plug. I clearly observed this apparent congealing action in this case, and my plan was to constantly dust the powder on *around* the congealed mass where any fresh synovia appeared. I only removed the incrusted mass when it was loose and interfered with getting the powder on satisfactorily. Gradually the discharge lessened, and altered in character favourably; and in the last stage, before the wound itself closed, for quite a week the sinus was filled with a *coagulum* forming a sort of plug, and every time the animal moved the limb this plug bobbed in and out. Finally it seemed to become absorbed, or at least it disappeared gradually as the sinus healed up from the bottom

Another important action of the powder was undoubtedly due to its *antiseptic* properties. Before I began to apply the powder the local inflammation was increasing, so was the synovial discharge, and the latter was obviously becoming mixed with pus and streaks of blood, so much so that, one anticipated ulceration All these bad signs gradually disappeared *after* the powder began to be applied. I therefore consider that the *antiseptic* part was very important. I shall not be so pessimistic in the future in a similar case, and I shall try the powder again.

PROLAPSE OF THE UTERUS IN A FOX TERRIER.

By Wm. Pauer, M.R.C.V.S., Blackwater.

A small fox terrier bitch, about two years old, the property of S. A. Saunders, M.A., of Wellington College, was brought to my surgery on October 12th, 1901, at 8 p.m., with the history that she had given birth to two puppies two days previously, and that she had been in the present condition since then.

Examination showed complete prolapse of the uterus. The organ was considerably swollen and highly inflamed, the mucous membrane of the cornua being deep red in colour and in places in an almost putrefactive condition—the smell therefrom being nearly unbearable—so much so that a friend who was willing to assist was unable to stay in the surgery. The bitch was in poor condition and in an extremely weak state, being scarcely able to stand.

As she was in such a condition I felt that her chance of recovery from amputation of the uterus was a very slight one and that she would stand rather a better chance if I decided on replacement. Consequently I thoroughly washed the organ with a warm solution of creolin, and reposition was effected without much difficulty under the influence of chloroform. I was a little doubtful whether the uterine cornua were completely everted, so that in order to make sure I passed a thick stiff probe to the end of each cornua so that no invagination could remain.

After anæsthesia had passed off a stimulant was given and the patient kept warm for the night. On the 13th, 14th, and 15th her condition was extremely critical and an unfavourable prognosis was formed. There was a continual foul smelling discharge from the vagina, the bitch had no appetite, and strength was diminishing.

The uterus was well flushed out twice daily with warm solution of chinosol, shreds of mucous membrane frequently coming away. Stimulants were regularly given, and small quantities of Brand's extract of meat were often administered, though vomition was frequent.

On the 16th and 17th there was little change in her condition though the discharge was less and not so fœtid. Treatment was continued.

On the 18th she took a small quantity of milk voluntarily and appeared slightly better. The next day the discharge had ceased and the bitch looked brighter. Improvement was maintained and recovery from now was very quick. She was discharged on the 24th.

RUPTURE OF THE CARPAL INTEROSSEOUS LIGAMENTS WITH PARTIAL DISLOCATION OF THE RADIO-CARPAL ARTICULATIONS.

Subject.—Aged colonial pony.

History.—On the 27th August, 1901, a trooper of the 18th Battalion, I.Y. acting as orderly to the troop commander was galloping over some rough rocky ground when his horse fell heavily. The horse got up walking very lame and was led into camp and the

case reported to the farrier quarter-master sergeant. I saw the case on September 1st when our columns combined.

Symptoms.—At rest the animal stood with the knees nearly touching and an extensive backward curve of both fore legs like an exaggerated calf-kneed condition. At a walk the knees were flexed in a normal manner. The feet were placed on the ground heels first, and when the body weight was thrown upon the legs they assumed the curved condition. The gait was of a laminitic character. The knees were tender on pressure and there was evidence of increased synovia in the bursa; I could press the bursa in between the radio-carpal articulation. Flexion and evtension was painful and some amount of lateral movement possible. I came to the conclusion there was a rupture of some of the carpal ligaments and as the horse was too lame to march with the column I had him destroyed.

Post-mortem appearances.—The radio-carpal bursa was distended and the synovia brownish in colour due to effused blood. The interosseous ligaments between the external condyle of the radius, and the scaphoid and semi-lunar was ruptured; the interosseus ligament between the pisiform and cuniform also showed signs of laceration, and there was a small blood clot on its surface. The condition was exactly the same in both knees. Only the anterior ligaments were affected, the posterior ones perfectly healthy. With the exception of the parts mentioned the joints were perfectly healthy in both fore, only the radio-carpal articulation affected, the carpo-metacarpal articulations showed no signs of injury.

Remarks.—The photograph shows well the condition at rest, the curved condition is shown very well in the near fore.

During this campaign I have met with a good many cases of injuries to ligaments and tendons, but have not seen anything like this case, neither do I remember reading of a similar condition. Perhaps some of the readers of *The Record* have had a similar case.

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South Africa.

ABSTRACTS FROM FOREIGN JOURNALS.

Canine Pasteurellosis (Distemper).—By M. Lignieres, Director of the Bacteriological Institute, Buenos-Ayres.

(Continued from page 290).

Inoculations in Dogs.

To preserve the specificity of the microbe in the best possible manner, I chiefly used bouillon cultures recently obtained from the carcases of dogs dead of the natural disease. The passages through the guinea-pig may, in effect, somewhat modify the relative virulence for the dog.

Subcutaneons inoculation of 1 or 2 cc. of the peptone bouillon culture always determines a very painful œdematous swelling within 24 hours. In *aged* dogs, generally from the third day, this lesion soon becomes circumscribed and terminated by resorption or suppuration and in this latter case the deep wound which results very quickly heals. In *very young* animals when the inoculation is performed on the internal face of the thigh, the œdema spreads to the entire limb, which is rendered so painful that the animal continually remains in the recumbent position to prevent any movement of it. The temperature reaches 40 C., and the appetite is suppressed. The gland in the inguinal region becomes very much enlarged and painful, and there is always a formation of a more or less vast abscess at the seat of inoculation but which when opened leads to recovery. However this improvement is not always obtained: the temperature then rises to about 40·5 C. and the animal dies on the 4th or fifth day following the inoculation.

On post-mortem examination the subcutaneous areolar tissue of the affected limb is infiltrated with serosity or even a greyish purulent material, which spreads up to as far as the abdominal wall. The crural glands are enlarged and hæmorrhagic and contain the inoculated microbe. The muscles of the thigh are infiltrated, friable, and slightly greyish. The viscera do not generally exhibit any changes visible to the naked eye. If death do not take place before five or six days, cultures made from the blood and pulp of the organs gives various microbes but not the inoculated cocco-bacillus. On the contrary the inoculated as well as other species of microbes are very easily found in the inguinal gland and in the œdema at the seat of inoculation. In the *cat* subcutaneous injection produces the same effects as in the dog, but the consequences are generally more serious.

Intravenous Inoculation.—By multiplying the experiments almost all the clinical forms of distemper can be produced.

1. Septicæmic form with Gastro-enteritis.—Terra del Fuego dog, aged about 14 months, had on July 14, 1899, at 10 a.m., 5 cc. of the peptone bouillon culture injected into his jugular and at noon had violent and repeated sickness and diarrhœa; an abundance of saliva flowed from the commissaries of the lips and

the respiration was panting in character. At 1.30 p.m. this animal died after vomiting bloody material a few times.

Autopsy.—Mucous membrane of stomach was very hyperæmic, but very little bloody suffusion was seen. On the other hand the intestinal mucous membrane was destroyed in places and resembled a purplish pulp. The intestinal contents were rusty. The kidneys, spleen, and liver were very much congested and the two latter organs were augmented in volume. On the heart and lungs a few ecchymosed spots were perceived. The blood was darkened and slightly coagulable. Cultures gave the inoculated microbe.

This form may be very easily produced by injecting instead of bouillon culture, a fourth or one-half of a cubic centimetre of the culture in the peritoneal liquid of the guinea-pig.

Occasionally the intestinal lesions are less grave and the septicæmic lesions are more pronounced. Hæmorrhages produced by rupture of the liver may also be found.

2. Pleuro-Pericarditis, Arthritis, and Gastro-Enteritis.—A Danish dog of 3 month of age, on July 3rd, 1899, received into one of its veins (jugular?) a cubic centimetre of the peptone bouillon culture. In the evening the animal vomited several times, was depressed, had no appetite; and had a temperature of 40.1. On the 4th, it was in the same condition; temperature 40°. At the point of inoculation (external saphenous), the limb was swollen very much and extremely painful. As very often happens a trace of the culture passed into the subcutaneous connective tissue, at the moment when the needle was withdrawn, and it was sufficient to produce this very extensive and painful œdema. There was total loss of appetite but great thirst. On the 5th temperature 38.8; this sudden fall of temperature which made a contrast with the very bad general condition of the subject, was a treacherous prognostic. The animal had no return of appetite, he constantly remained in the recumbent position, there was diarrhœa, emaciation set in and the eyes were sunken in their orbits, but there were no pustules on the skin. The respiration was jerky, shallow, and precipitous. The foot was œdematous and death took place during the night of the 5th to the 6th.

Autopsy.—At the point of inoculation there was a diffusion of greenish pus; the connective and muscular tissues were infiltrated with a rusty serosity and the blood arborisations were numerous. Acute inflammatory lesions were found extending the whole length of the alimentary canal. Hæmorrhagic patches were seen on the gastric mucous membrane especially in the vicinity of the pylorus. The mucous membrane of the small intestine was hæmorrhagic in places and blood mingled the biliary contents of the intestine. The liver and spleen were very much increased in size and congested, and the kidneys were swollen but of the normal colour. Both lungs were normal but the pleuræ were covered with yellowish false membranes and contained a turbid liquid. Pericarditis with yellowish fibrinous false membranes and an effusion of a turbid fluid, rich in pus globules also existed. The blood was discoloured and blackish. Finally, several of the articulations were the seat of a peracute arthritis. Cultures made with the blood pleuritic, and pericarditic liquid, liver, spleen, kidneys and discoloured synovia gave the inoculated as well as a few other varieties of microbes.

3. Gastro-Enteritis.—This is the easiest form to experimentally produce.

On June 30th, 1899, a young pug had injected into its vena saphena half a cubic centimetre of serum bouillon culture, rich in microbes. A few hours after it was seized with repeated vomiting and diarrhœa. In the evening the temperature was 40·4. On the 21st the animal remained coiled up and absolutely ate nothing, but often sought for water. The diarrhœa was bloody; temperature 40·2. On the 22nd, same state; discharge from the eyes, coat open and upright. No lesions of the skin noticeable, temperature 37·9. On the 23rd the animal was dead.

Autopsy.—A peracute inflammation of the gastro-intestinal mucous membrane was found; in places this mucous membrane was of a purplish tint resembling pulp in consequence of it being so turgescent, and the intestinal liquid was mixed with blood; red spottings were dotted over the lungs and heart and the other organs were only congested. In the blood and even the intestinal fluid the inoculated microbe was found.

4. *Gastritis with Cutaneous Pustules.*—A fox-terrier bitch, aged 8 months, on July 30th, 1899, received in the vein 2 cc. of the peptone bouillon culture. After the inoculation there was repeated vomiting and the temperature was 39·7. On the 31st, she remained in the recumbent position and ate very little. The temperature was 40. On August 1st she was in the same condition and ate next to nothing; there were no pustules on the skin and the temperature was 40.4. On the 2nd, the temperature was 40·8; there was lameness in the inoculated limb; inappetence was complete and there was vomiting. On the 3rd, the temperature was 40·1. Nothing abnormal was observed on the skin beyond a few small reddish spots. On the 4th, the temperature was 38·8, the animal could scarcely drag itself along; the hair was open and upright, and there was a discharge from the eyes which were sunken in their orbits. It had the depressed appearance so characteristic in the dog affected with the natural disease. On the internal aspect of the thigh two very distinct vesico-pustules were observed. Death took place at 6 a.m. on the 5th.

Autopsy.—The stomach contained a rusty fluid, its mucous membrane was very much inflamed and hæmorrhagic in places, but the intestines were normal in appearance. The spleen was normal, the liver slightly congested; in one of the kidneys a hæmorrhagic infarction of the size of a sixpence and in the form of an inverted cone was found In the lungs very many hæmorrhagic foci were observed penetrating into the depth of the tissue. On the heart small black spots were encountered. The blood was darkened and badly coagulable. Cultures gave the inoculated microbe.

5. *Peracute Chorea.*—A very good specimen of a fox-terrier bitch, aged one year, received on July 30th into its vein a cubic centimetre of peptone bouillon culture. It became dull, had very little appetite but

otherwise appeared to bear this inoculation very well. On the 31st the temperature was 38·6 and the bitch remained in the recumbent position and eat a little food. On August 1st it was in the same condition and there were no pustules; its temperature was 38. On the 2nd temperature was 38·8; on the 3rd 38·6; 4th, 37·7; the skin was alright but there was slight dulness and the appetite commenced to return. Temperature:

Aug. 5th	38.9	Aug. 8th	39·1
,, 6th	39·2	,, 9th	39·4
,, 7th	39·3	,, 10th	39·6

Its general condition was not very good and the appetite was capricious. On the 11th I again injected into its veins a cubic centimetre of bouillon culture. The temperature was 39·7 and the appetite was completely suppressed. On the 12th the temperature was 38·5; the animal was visibly emaciated but at intervals she made a few attempts to bark. On the 13th the temperature was 38·9. From time to time she made a few whines. I closely watched the bitch. Between the crises she was tranquil and coiled herself up. Suddenly she would cry out as if in pain or as if struck. At the same time she had contractions of the extensor muscles of the forelimbs on which she could no longer stand; she made a few movements with hind limbs and the crisis terminated. At first these crises were separated by long intervals, but afterwards become more and more frequent. The animal barked very much, which is peculiar to dogs attacked with acute chorea. The symptoms were not those of epilepsy. This state lasted until the 14th or 15th when the animal became dumb and fell into a kind of coma and became very much emaciated. Death took place at noon on the same day.

Autopsy.—Body very much wasted; on the fold of skin on the left flank a few small but not characteristic pimples were noticed. All the articulations were sound save the right radio-carpal which was inflamed. This lesion was wholly insufficient to explain the choreic crises observed during life. A very great quantity of black blood was found in the stomach, the mucous membrane of which was very red. Black clots were also found in the intestine, but its mucous membrane only exhibited a distinct red spotting. The liver was enlarged and congested. The kidneys, spleen, lungs, and pericardium were normal in appearance. The darkened blood clotted very well. The brain and its meninges were congested; in the vicinity of the lateral ventricles there were traces of inflammation. The inseminations furnished some very interesting results. The blood gave a pure culture of the streptococcus; kidneys the same; the brain and bulb streptococcus and the cocco-bacillus of the canine Pasteurellosis; the intestine, a great variety of micro-organisms, among others the streptococcus but not the specific microbe. The spleen gave nothing.

It is curious to learn that the cocco-bacilli inoculated three days before death were only found in the brain and bulb. The first inoculation made 11 days before had probably already rendered the system relatively more resistent to the cocco-bacillus. We may also remark that the appearance of the streptococcus after the inoculation of the Pasteurella has already been pointed out by us in the history of the equine Pasteurellosis. We shall also see that in the natural disease complicated with nervous phenomena we nearly always find streptococci in the brain and bulb.

6. *Articular affections. Cachexia.*—A Terra del Fuego dog, aged about 5 months, was on Oct. 9th, 1899. inoculated in the vein with four drops of the peptone bouillon culture, diluted in 5 cc. of sterilised water. In the evening he was dull but there was no vomiting and very little diarrhœa. Temperature was 40·4. On the 10th the temperature was 39·8 a.m., 39 8 p.m; there was a little depression but he ate a few morsels of meat. On the 11th the temperature was 40· and he was lame on the inoculated limb. On the 12th the temperature was 40·5; there was a discharge from the eyes, and the stifle joint was very painful. On the 13th temperature 37·6; the joint had increased in size and there was emaciation. On the 14th he was in the same state and the temperature was 39·3 On the 15th and following days up to the 30th the animal was dull and did not use the affected limb at all, but the appetite was very good. Towards the end of October the stifle joint was distinctly seen to becoming the seat of arthritis deformans. The following month the animal commenced to use the affected limb. Four month after, when no longer lame, he was destroyed.

Autopsy.—No lesions on the outside of the femorotibial articulation, which was half as large again than that of the opposite limb. The articular surfaces of the condyles exhibited in places, white rugose spots, the cartilage in the centre of which was undergoing reparation. The muscles were slightly atrophied.

If we kill these animals sooner the articular surfaces present some ulcerated and reddish patches. The same lesion appears in the patella. The synovia is more or less turbid. Occasionally, after intravenous inoculation of small quantities of the culture, we see a hydrarthrosis appear, notably in the centre of the carpo-metacarpal articulation; this lesion is extremely painful and may disappear in a few days.

Finally, if the dose is insufficient to produce very serious lesions, or rather if we renew these intravenous injections of small doses two or three times we cause gastro-intestinal disturbances which seem to recover suddenly, but which in reality gradually cause anæmia in young dogs and slowly bring about cachexia.

We also observe this form following pulmonary lesions which disappear. In one case the experimental animal became paraplegic. In these chronic forms the cultures never give the inoculated microbe.

7. *Pulmonary forms.*—A cross-bred fox-terrier, aged about 10 months, had on July 30th, 1899, injected into its vena saphena 2 cc. of peptone bouillon culture. In the evening it was dull and did not eat. Temperature 39·3. On the 31st temperature 39·7; he remained in the recumbent position and had no appetite. On August 1st was in same condition but there were no pustules on the skin; temperature 39·4; on the 2nd, 39·5; 3rd, 38·7; 4th, 38·7 and skin was free from eruptions. On the 5th the temperature was normal—38·6 but in spite of this the animal

remained dull, ate badly and was very thin. On the 6th there were small eruptions on the skin which were by no means characteristic. Temperature 39. On the 7th it was 39·5 and the animal constantly remained lying down and was emaciated. On the 8th the temperature was 40, but there were no true pustules. On the 9th the temperature 39·3; the 10th 39·8; 11th 39; 12th 39. There was profuse diarrhœa, he was more and more emaciated and the hair was upright, and the aspect of the animal was very much that of a dog having the natural disease. On the 13th the temperature was 39·6; there was no improvement but yet he ate very well; 14th, temp. was 39·8; 15th, 39·2; he coughed and had a muco-purulent discharge from the nostrils; on the 16th temperature was 39·1 and the auscultation and percussion denoted the existence of double pneumonia; there was a slight labial breathing but no eruption on the skin. On the 17th temperature was 39·4 and discharge from nostrils was abundant; on the 18th 38·8 but no improvement, and on the 19th he was very thin and scarcely able to stand so he was destroyed.

Autopsy.—The middle lobes of both lungs were completely hepatized; there was typical broncho-pneumonia, and on section of the diseased tissue it was granular and greyish. The liver and kidneys were darkened, but the spleen was normal. In the stomach a great quantity of straw was found, as the animal during life had a perversion of taste, and its mucous membrane was dotted with minute hæmorrhages. The mucous membrane of the duodenum and small intestine bore traces of acute inflammation. The articulations were healthy.

Cultures.—Blood. A very sprawling white opaque colony formed by small bacilli taking Gram.

Liver.—Six colonies formed by the bacillus subtilis and some small bacilli taking Gram.

Kidney and Spleen.—No culture.

Lungs.—In every one of the tubes a culture, which was occasionally pure and very abundant, resembling the Pasteurella was observed. The colonies were formed by some clusters of small bacilli, or even of the cocco-bacilli, deprived of movement, not staining with Gram, not growing in Würtz's gelose, not coagulating milk, which took on after six to eight days a greyish tint resembling coffee and milk and having a strong alkaline reaction; growing on potato, giving indol and rapidly fermenting urea. Cultures of this microbe set free a very fœtid odour characteristic of the *cocco-bacillus fetidus ozenae* of Dr. Pérez. I shall later on refer to this point. It is remarkable that notwithstanding all my efforts I have been unsuccessful in detecting the inoculated microbe in these pulmonary lesions. It is evident that we may obtain all these experimental results only under the condition of repeating the inoculations many times. H. G.

(To be continued.)

Canine Gift to the King. The latest addition to the Royal dogs is Jack, an Irish terrier, which the King has just graciously accepted from Mr. Alfred Sewell, M.R.C.V.S. Jack possesses in a high degree the qualities of a good companion so charasteric of the breed. His Majesty seemed particularly pleased that Jack showed in a very short time a great attachment to his Royal Master.

VETERINARY SOCIETIES.

LINCOLNSHIRE VETERINARY MEDICAL ASSOCIATION.

The autumn meeting was held at the Albion Hotel, Lincoln, on October 17th, when the following members and gentlemen were present, viz: Messrs. R. W. Clarke, President; Jas. Smith and T. Holmes, Vice-Presidents; A. W. Allott, F. L. Gooch, C. Hartley, F. A. Holmes, H. Howse, G. Osborne, T. A. Rudkin, E. C. Russell (Treasurer), T. Smith, W. A. Weston, and T. W. Turner (Hon. Sec.) Visitors: Prof. Hobday, Capt. Rudduck, Mr. S. Wharam (Leeds), and Mr. H. W. Lang (Caistor.)

On the proposition of Mr. Hartley and seconded by Mr. Holmes the minutes of the last meeting were taken as read.

New Members.

Mr. A. Johns, of Kimbolton, and Mr. H. Hicks, Metherington were elected members.

Mr. H. W. Lang of Caistor, and Mr. G. Robertson, Ruskington, were proposed by the President and seconded by Mr. Hartley, and will be ballotted at the next meeting.

Proposed by Mr. Hartley and seconded by Mr. Holmes that the Report of the Delegates on the British Congress on Tuberculosis be read at the next meeting.

At two o'clock the members proceeded to Mr. Hartley's Infirmary, Friars Lane, (kindly placed at the disposal of the Association) where Prof. Hobday gave two practical demonstrations of Ovariotomy, explaining the method of operating and the instruments required, also being very particular that the parts were thoroughly cleansed and disinfected before operating. After this the President supplied a mare for Median Neurectomy, the said mare being very lame on the near fore leg. The mare was cast and chloroformed, when Prof. Hobday made a neat incision immediately over the nerve and removed about two inches. The whole operation occupying very few minutes.

Votes of thanks to Prof. Hobday for coming down and giving his demonstration, and also to Mr. Hartley for the use of his infirmary were unanimously passed.

These interesting operations being terminated the members and friends returned to the Albion Hotel and dined together, after which the toasts of the King and the Profession were duly honoured.

T. W. Turner, *Hon. Sec.*

IRISH CENTRAL VETERINARY ASSOCIATION.

(Concluded from p. 297).

THE HOCK IN HEALTH AND DISEASE.

By W. Cargill Patrick, F.R.C.V.S., Ballinasloe.

Mr. President and Gentlemen,—When asked by our Secretary about three weeks ago to read a paper at this meeting which might interest you, I need hardly tell you I had some difficulty in making up my mind what it would be, as I am aware that something of a controversial nature is preferable where there are so many of us together who, though practising the same profession, hold different views on some subjects. By raising a discussion on some one point of interest a certain amount of unanimity of opinion might be arrived at, thus benefiting the whole company present. That there is plenty of talent and ripe experience amongst us cannot be gainsaid, and an interchange of views or opinions under such conditions ought to prove at least both interesting and

instructive, provided I shall have been fortunate enough to hit off a suitable topic, which will lend itself to the object we have in view. I propose, therefore, to read a few notes concerning the hock in health and disease, which a selfish desire for more information on the matter has prompted me to bring forward this evening.

The hock, occupying as it does a position of major importance in the locomotion of the horse, is a joint requiring careful and thorough consideration during our examinations as to soundness, seeing so much depends upon its healthy or normal state and perfect movements, especially in the lighter breeds of horses whose duties demand a pace beyond that of walking. Great differences of opinion can and do exist as to what is a sound hock or otherwise, many of them being apparently different in conformation, yet performing the same functions under widely different conditions, and we are often expected to state with unerring certainty whether they will keep sound or not.

The ideal form, according to most writers is a long, wide, thick, clean, hard hock, with perfect flexion and extension, and placed at a proper angle, *i.e.*, parallel to the median plane of the body and its own axis, thus ensuring equal distribution of weight, dispersion of concussion, and propulsion. If these conditions were always present matters would be much simplified, as there is no difficulty in knowing a sound hock of the above description; but to speak with anything like certainty on the actual condition of an *unsound looking* hock is most difficult in practice—hence the differences of opinion already mentioned. Many practitioners, particularly in England and Scotland, condemn as unsound or spavined all hocks inclined to be at all angular or square in outline on the anterior face or surface, whereas it is no uncommon thing to find in this country stock by certain sires who have this peculiarity almost without exception, and although many of them are put to work very young yet they continue sound, and as the animals mature their hocks become much finer or cleaner in outline—in horsey parlance, they "fine down."

Now the question comes to be—How are we to distinguish between health and disease in the hock? Conformation undoubtedly has to be considered as one of the chief points, but how many of decidedly bad conformation come before us for the verdict of sound or unsound, and in many instances are perfectly free from disease, thus shewing that conformation is not of primary importance, and that it lies with the purchaser rather than the examiner to see that he is buying a horse with suitable hocks for the purposes to which he intends putting the animal, our opinion being confined to the present condition only, unless specially asked to advise regarding the animal's future usefulness and soundness. And supposing we are, how many of us can say whether a hock of an admittedly bad conformation will continue sound or otherwise?

A shrewd guess may be ventured, based upon the age of the animal, nature of the work required of him, his freedom of movement or perfect action, our previous knowledge of his breeding, and experience of similar cases, but beyond that I think it is impossible to go. Action is probably what we have to depend on most in these cases, freedom and regularity of movement are a *sine qua non*, although it is contended by many that these conditions are sometimes present even in disease, but this is hardly compatible with our ideas of the nature of joint disease or spavin in particular, where ostitis, periostitis, anchylosis, arthritis, and ulceration play a very prominent part and affect so many different bones and structures. Owing to the nature of the disease called spavin being so irregular in its development, both as to the structures involved and the positions it affects, deformity may or may not be present to assist us in arriving at a correct conclusion, therefore both visual and manual examination, though useful supplementary guides, are usually insufficient in themselves, and sometimes even misleading, because one may have an intimate knowledge of the structures which compose the joint in question, and of its normal appearance during life, or surface anatomy, yet we occasionally meet with a roughened or prominent ridge on the marginal surface of the cuneiform medium which fills our hand—as it were—at the wrong spot and proves rather puzzling at times, yet no disease may be present, and if left to the senses of sight and touch only for decision a very erroneous view might be taken of it. According to this line of reasoning therefore our guides to diagnosis are arranged in the following order:—Action, Conformation, Age, Manual examination, and Breeding, or heredity, last.

I have only mentioned spavin in my notes as being one of the hock diseases about which great differences of opinion may arise and we have most difficulty in giving an opinion about. Most of the other lesions when present are usually so apparent that they are almost beyond dispute, and the majority of our clients are so conversant with them that in very many instances our opinion is never asked regarding them, unless it may be whether certain curby hocks are likely to stand work or not. I think on this point it is generally agreed that they should only be viewed seriously when present in untried four-year-olds and under, and even then if they have a good firm resisting or solid feel, may be overlooked, provided the hock formation is good.

I shall conclude my subject with an apology for being so brief in my remarks, but at the same time would remind you that I am only a stop-gap who was called upon at short notice, therefore could not do the subject justice in the time at my disposal. However, I trust what little has been said may stimulate those present to elaborate it for me by freely expressing their views, and discussing it fully.

Discussion.

The President said that in examining a doubtful hock he attached perhaps the greatest importance to a comparison of one hock with the other. Spavined hocks were hardly ever symmetrical, while very large rough hocks if exactly similar were generally sound. He relied greatly on his observation of how the horse used his hocks; and in a doubtful case when the animal used his hocks well, and trotted evenly when rested after a gallop, he generally passed him sound. Age was a factor that should not be overlooked, a trivial inequality while of very little moment in an aged horse, was a serious matter in a long tail or a four-year-old.

Mr. McKenny: The subject which my friend Mr. Patrick has brought under our notice is one which we, as practitioners, should be able to profitably discuss. I am of the opinion that if we could really once agree on this subject a great many disputes which take place on the examination of horses would cease.

Now in reference to the conformation of the hock, we all like a good, strong, well-formed hock; but it may be difficult to define what that really is, as it is only a matter of opinion. For instance, in this country most of the profession like a large, well-developed hock, whereas a great many in England condemn the self-same hock as unsound. I therefore object to the term "unsound-looking hock" frequently used, but in reality means anything or nothing.

Respecting the manipulation of hocks, of course we first look to see if they are alike, and please our idea of formation as to soundness; and then proceed to manipulate them as to undue heat, pain on pressure, or enlargement of a part. Sometimes you cannot definitely ascertain an enlargement on a hock by manipulation, but if there is an absence of the ridges on the small bones which may be due to the interspaces being filled up with

fibrous matter or exostosis, without pain or heat, the question must then necessarily devolve itself into—is this a diseased or a sound hock?

Now grant for the sake of argument that some of the small bones are united by an exostosis, does it follow that the hock is necessarily unsound? In my opinion it does not. I have said some of the bones united by an exostosis, I referred to those posterior to the vein, as I have frequently found some of the very soundest horses in action with well-developed exostosis in this position; and in many cases there could be no mistake about the existence of the exostosis as I afterwards procured the hocks and dissected them. These are horses that I knew well for years and they hunted hard, and the exostosis never caused lameness. However, I have usually found the smallest exostosis in front of the vein, especially if accompanied by heat and pain on pressure, invariably causes lameness. Of course we are all agreed that an exostosis of the true hock joint constitutes unsoundness.

In reference to action this again is open to difference of opinion, and I therefore do not understand the expression "the characteristic action of spavin lameness," especially as I have found in some cases of spavin that the hock is not flexed, and at other times it is unduly flexed with a jerky movement, whereas the leg in other cases is dragged and the toe of the shoe is unduly worn, and so on. In my opinion the action depends on the particular parts affected; thus it is liable to alteration and needs much experience to form even an approximate opinion as to the cause of alteration. In forming an opinion I quite agree with Mr. Patrick that conformation, manipulation and action are the great factors in arriving at a definite and correct opinion as to whether a horse has or has not a spavin, but it is quite a different thing to define these various matters.

In my opinion a horse is sound if he has no defect that is likely to depreciate his value or lessen his ability to perform his work, therefore I hope I shall see the day when all practitioners will agree that although a horse may have an exostosis on its hock, or anywhere, that does not depreciate its usefulness, or likely to do so, that such will not be considered more than a technical unsoundness. I remember when all splints were considered to constitute unsoundness, and some practitioners at the present moment are of the same opinion. This difference of professional opinion, to my mind, is most unsatisfactory to our clients and injurious to the interests of the profession.

Mr. WINTER: You see an aged horse with a very big spavin going sound enough and the horse goes sound afterwards for years, I think that is about the crux. Then there is the question of heredity! I remember one case in point. I was examining a horse and found that he did not flex his hocks as I liked, but I was just on the verge of passing him when the owner, who was messing about, came up and said his mother was fired. That decided me, and I said take him home, and home he had to go for the sins of his mother. But out of every 100 horses we examine we do not know anything about the sire or dam in 99 cases. I think that in any doubtful cases of hocks heredity is the only thing that can guide the practitioner, and if you watch that closely you will make no mistake.

My experience is that if a horse is going to grow spavin—incipient spavin—he never flexes his hock, or he does not flex one hock as well as the other. I rely more on the way a horse uses his hocks than anything else, because I believe it is the surest guide in a doubtful case. It is where the thing is so indefinite, and particularly in the case of young horses, that this should be the real guide—there is no other guide. Even those horses which grow a very big spavin are often very useful horses, but you are quite right to send them down.

As to English practitioners rejecting the horses we pass, well, you will not get horses here with hocks perfectly alike. I have never seen them anyway.

Mr. HOWARD: As Mr. McKenny has remarked "unsound looking hocks" is rather an ambiguous phrase, but I'm afraid differences of opinion will exist as long as the veterinary profession exists. Unfortunately is is not for ourselves we are called on to go to all this trouble to examine. We are acting for clients. When we do examine for ourselves we don't have half the difficulty in arriving at a decision. The trouble is that the horse may be costing a lot of money, and has perhaps to be sold later on at a higher price and be examined again by somebody else. I think that very often has something to do with the opinion given. The term "unsound looking hocks" ought to explain itself. To my mind it means the hock that looks unsound, but feels sound when we come to examine it.

The action need not be considered when the hocks look sound and feel sound, but when there is any doubt about the feel or appearance of a hock then the action is a great consideration and always a help to form an opinion. I examine a good many horses for my own use and I generally find that horses with rough unsound-looking hocks with good hock action may stand years of work.

Mr. REA: I certainly think that action has a great deal to say to arriving at a correct opinion in doubtful cases—although everybody has a different opinion about action as well as about good and bad hocks. But I think the general movement all round should always be taken into consideration with the formation of the hock.

Mr. DAWSON: My experience is entirely confined to the North of Ireland, and there we never pass a horse if there is the smallest difference in size or shape in his hocks, because we know that they would be afterwards rejected in England. With regard to action, I don't know a thing about it as far as it concerns the diagnosis of spavin. We often find one hock lifted a bit higher than the other, but this, I believe, in a great many cases is due to some weakness or lengthening of the muscles about the stifle, particularly those connected with the pastern.

Mr. PATRICK: I regret to find that I have not expressed myself sufficiently clearly as there seems to be some difference of opinion as to what I really meant. It is rather a pity this, as I was anxious to have it determined how to distinguish between health and disease in hocks of different conformation, taking special care to mention that the term "unsound looking" referred to a hock, which fills your hand in the wrong place, that is having an enlargement in front of the vein, as this is the point chiefly upon which much difference of opinion exists. Mr. McKenny seems to have a great difficulty in determining what is expressed by the term action. What I would call sound action in the hock is the normal or healthy movements executed by that joint during progression; should these be irregular or uneven when compared with its fellow, then we are assisted in coming to a correct conclusion regarding the soundness of the hock. When I speak of action it is referable to the hock only and not the stifle as some of you seem to have inferred. Mr. McKenny says disease does not necessarily mean unsoundness. That I cannot understood. In my opinion no horse is sound where disease is present, whether it interferes with his action or not, although he may be *sound enough* for all practical purposes. We are generally agreed about disease affecting the hock postero-internally, where you have less movement taking place in health than anteriorly, therefore movement is less interfered with when disease sets in, and consequently no great importance attaches to it. The fact of mentioning these things in our certificates is merely a cloak for our sins of omission in case they should prove diseased afterwards—an admission of uncertainty. Dragging of the

toes is not necessarily due to disease of the hocks, it may be referable to some other joint altogether such as the hip, stifle or even the back. Mr. Dawson's reference to stifle lameness is totally different from the disease under discussion, being due to luxation of the patella from stretching or undue lengthening of the ligaments—a common condition in young stock kept on hilly pastures. The views of Messrs. Winter, Rea, and Howard coincide with my own, and it is generally agreed that action is our principal guide in the examination of the hock as to soundness.

EASTERN COUNTIES VETERINARY MEDICAL SOCIETY.

The autumn meeting was held on Thursday, October 3rd, at the Royal Hotel, Lowestoft, where the President, Mr. Sydney Smith, of that town, first entertained the members to luncheon. Among those present were :—Messrs. W. Shipley, jun., Yarmouth ; J. D. Overed, Blofield ; T. E. Auger, Wymondham ; G. C. Hunting, Stalham ; W. Turtill, Wickham Market ; W. F. Howes, Norwich ; J. F. Thurston, Fressingfield ; the Hon. Sec. (Mr. F. B. O. Taylor, Weston ; the visitors being Mr. Percival Smith, and Mr. S. Smith, jun.

The following gentlemen wrote regretting inability to attend : Professors M'Fadyean, Penberthy, Macqueen, Pritchard, Hobday, Axe, and Nicholson Almond, and Messrs. J. F. Simpson, J. E. Kitchin, J. B. Pollock, J. Hammond, T. G. Heatley, H. Santy, H. L. Roberts, P. Turner, R. C. Taylor, F. Morton Wallis, W. Standley, E. Margarson, J. Barr, H. Nesling, F. Low, H. Low, W. Bower, W. Westgate, E. W. Wright, Case, P. J. Mullane, Blomfield, Bray, and Aggio.

At the conclusion of lunch the PRESIDENT proposed the King, and took occasion to refer to the announcement that His Majesty had appointed an unprofessional man as horse dentist, a matter which he hoped would be cleared up satisfactorily to the profession.

Mr. T. E. AUGER submitted the health of the President which was cordially honoured.

After a brief interval the business meeting was held, when the minutes of the last meeting were presented and confirmed.

In reply to Mr. Shipley the Hon. Sec. said that as desired he had written to Mr. Mills asking him to reconsider the matter but he never heard again from him.

NEW MEMBERS.

Mr. FRANK POTTS, of Newmarket, was proposed as a new member by Mr. Shipley, who said it was very desirable that they should secure other new members from this district.

Mr. J. F. Thurston seconded, and this was agreed to.

Mr. H. G. WESTGATE, of Monks Eleigh, nominated by Mr. Thurston who stated that Mr. Westgate had formerly been a member but left the country to go to South Africa, and having returned had taken a practice at Monks Eleigh.

Mr. G. C. Hunting seconded.

The opinion was expressed by both Mr. Shipley and Mr. J. D. Overed that the entrance fee should be dispensed with in this cause, and the meeting concurred in the suggestion.

The HON. SEC. read a letter of resignation from Mr. H. L. Roberts, of Diss, who he announced had been appointed one of the Assistant Inspectors to the Board of Agriculture.

Mr. SHIPLEY proposed that a letter be sent accepting the resignation, and regretting that Mr. Roberts had been compelled to leave the Association in which he had been a most useful member.

The HON. SEC. seconded, and this was carried.

NEXT MEETING.

Mr. J. F. THURSTON proposed that the next meeting be held at Ipswich. The last three meetings had not been easy to reach from East and West Suffolk or from Essex. It was their duty to give this district a turn, and Ipswich was fairly central.

Mr. TURTILL seconding said they had had to make long journeys from Suffolk to attend, and to keep things together the meetings should occasionally be held at Ipswich. In that district there were several gentlemen who might become new members if they went there.

There was no other proposal and the resolution was accordingly adopted.

SWINE FEVER AND THE SWINE FEVER ORDER OF 1901.

By J. F. THURSTON, M.R.C.V.S., Fressingfield.

A few days ago I was requested to introduce a subject for discussion at this meeting ; by the same post I received a copy of the Swine Fever Order of 1901, and it struck me that I might select that disease as a suitable subject. Carried away by a sudden burst of enthusiasm I acceded to the request, having done nothing of the kind before, and therefore knowing little of the trouble that my promise entailed until I started on the task.

Fortune, however, favours me in one respect for the time at our disposal is short, and my remarks must necessarily be short, a fact upon which you may also congratulate yourselves. I therefore intend only giving you a very brief outline of the pathology of swine fever and making a few remarks on the Order recently issued.

Swine fever is a specific contagious fever due to the entrance of a bacillus which produces characteristic lesions in the alimentary tract, more especially in large intestines.

The bacillus is like the glanders bacillus in shape and size, and is an obligatory parasite, which seldom or never propagates outside the body of the pig under ordinary conditions in this country. It is mainly a tissue parasite, a very common seat of the organism is the mesenteric glands, and of course, the lesions. The most common seats of the lesions are the intestines and the lymphatic glands, but lesions are sometimes met with in the tongue, tonsils, stomach, liver, spleen, and skin.

The intestinal lesions of swine fever take two forms, the one most commonly met with and the most characteristic is that of a circumscribed necrosis or ulcer ; in almost all cases of swine fever this lesion is met with in the large intestine, and in a few cases in the ileum also. There may be hundreds of these lesions throughout the cæcum, colon, and even in the rectum, but in many cases there are only a few ; they have no special location in the cæcum or colon, but frequently the side of the ileo-cæcal projection is ulcerated.

There are on the ileo-cæeal projection on the side next the colon a number of follicles filled with a semi-solid material which must not be confounded with the swine fever lesion, although a swine fever lesion may start at the bottom of one of these follicles.

The ulcers vary considerably in size, not uncommonly about the size of a threepenny piece, but they may be any size smaller, or even as large as two-shilling piece, the surface is generally of a greyish or yellowish colour, but sometimes it is black. The surface is rather firm and dry as a rule, and it is, when a lesion is recent, or a level with the surrounding mucous membrane or projecting slightly above it. Frequently the ulcers show a number of concentric rings, and they involve the whole thickness of the mucous membrane and part of the submucous coat. Of course all the glands and other ele-, ments within the circumference of the ulcer are destroyed and at the edges of the ulcer there is an inflammatory

reaction on the part of the living tissues. The necrosis may go on extending into the bowel wall but it rarely leads to perforation; usually the necrosis comes to a standstill, and if the pig survives the dead piece is cast off, and it is at this stage that we get the typical ulcer.

A shallow ulcer may cicatrise but of course the glandular elements are not reformed. The scar marking a former ulcer is slightly depressed and smooth, sometimes the necrotic piece remains a long time in position, and chronic inflammation going on all round at the same time gives the part the appearance of a small tumour.

In the small intestine the ulcers when present are usually small and the necrotic portion appears to be more promptly shed.

The other form of intestinal lesion is the diphtheritic inflammation, which is essentially a necrosis of the mucous membrane; but combined with this a deposition of a thin adherent fibrinous or croupous layer. The necrosis in this case is usually more superficial and may only involve part of the mucous membrane; the diphtheritic layer is often yellowish from bile staining, especially in the small intestine. This lesion is more frequent in the small intestine, but it may be present in the large intestine also. In very acute cases which are rapidly fatal you may get a diffuse intense inflammatory congestion not distinguishable from the effects of an irritant poison; in these cases almost all the lymphatic glands in the abdomen are enlarged and congested, their colour is livid, and in extreme cases their substance looks almost like spleen pulp. Not infrequently the mesenteric glands belonging to the ileum are swollen, though not much congested, and sometimes they show areas of dry, yellowish-white necrosis. Other groups of lymphatic glands may show swelling and congestion, sometimes the tongue shows one or two ulcers similar to those already described, but they are more often seen in the stomach which organ is also sometimes the seat of an intense diffuse gastritis.

The liver may be the seat of a multiple miliary necrosis; the spleen is more often normal, but it may be swollen and the pulp softened; sometimes it shows areas of necrosis.

The cortex of the kidney may be the seat of multiple hæmorrhages.

In the very malignant cases there may be numerous petechial hæmorrhages on the serous membranes and into the mucous membranes of the intestines.

The lungs are usually normal but in the more lingering cases there may be patches of collapse, and in acute cases hæmorrhages under the pleura. Pneumonia may occur as a complication.

The Swine Order of 1901 which comes into force on the 14th day of this month is evidently anticipated with little favour by agriculturists and pig keepers of the ordinary type That a little more cleanliness would be more agreeable to all who come in contact with pigs is brought home daily to most veterinary surgeons practising in the Eastern Counties, in fact pigs are often kept in such a state as to be a public nuisance, just as much as a bad drain or a foul cesspool.

That the pig dealer should have escaped attention so long as a most important factor in the spread of disease is a matter of incomprehensibility to all who are not accustomed to the Board of Agriculture's own special way of doing things.

Were I the possessor of a grey head, and thus to a certain extent shielded from ridicule, I would suggest that the incomplete measures which have been adopted with the idea of suppressing and stamping-out of swine fever be abolished, and swine fever wiped off the category of contagious disease.

At the present day we are taught to believe that there is no such thing as spontaneous disease. This theory I fully accept, but were you to ask me how the very first case of swine fever originated? or where the first swine fever bacillus came from? I should have to confess that the question is unanswerable. Why not take this as a basis of an argument and say that we must have swine fever to produce swine fever, and all of us as veterinary surgeons will readily admit that such is the case, even the ordinary pig keeper will admit that this is the way in which swine fever is most commonly spread, although some of them claim the power of producing the disease by bad feeding, overcrowding, etc. With no legislation to control the spread of this disease, a pig owner would realize—if he had an outbreak of swine fever among his own pigs to contend with—that it is to his advantage to get rid of that disease as speedily and effectually as possible, and with that end in view he would willingly carry out a system of disinfection more thorough than that required of him by the recent order; and when he considered his premises free from disease and safe for the introduction of fresh pigs, he would use the utmost care in selecting clean pigs, and would probably not go to a market or fair to buy them. On the majority of small farms in this part of England were a man to lose all his pigs from swine fever the loss would be incomparable to that of a horse, which loss he occasionally sustains without compensation from an insurance company or elsewhere, and with a certain amount of care he ought to be far less likely to have an outbreak of swine fever than to lose a horse.

If on the other hand swine fever is to be effectually dealt with by the Board of Agriculture, their measures must be thorough, and include compensation as a balm to the injuries that agriculturists and pig owners imagine they sustain in the restriction of movement, which restriction should be as complete as possible.

Mr. President and gentlemen, I thank you for the attention with which you have received these few remarks and trust you will not consider them too trivial for discussion.

Discussion.

The President said they were all indebted to Mr Thurston for the concise paper he had been kind enough to read. They were all more or less interested in the subject. Like Mr. Thurston he did not consider that the Board of Agriculture had coped with the matter as it might have done. In regard to the cause of swine fever there could be no doubt it was by contagion, and he did not think it arose spontaneously in any case. He did not know whether legislative measures could be adopted to effect a radical cure or destroy the disease, and he could not suggest anything other than slaughter and compensation. In that particular district fortunately they were fairly clear, and he had had no cases to report for many months, but the County of Norfolk seemed to be a good deal contaminated.

Mr. W. Shipley observed that the paper was a very useful one, well put together, and concisely described the distinctive symptoms in swine fever. He was not so much worried about swine fever and the existence of these beautiful symptoms. What worried him was when he felt certain that he had a case of swine fever to find no post-mortem signs whatever to confirm his opinion. He would like to point out the difficulty he frequently had in filling up the Board of Agriculture forms and having to say decidedly, yes or no whether an animal was suffering from swine fever. He believed that in the Eastern Counties farmers and pig keepers knew swine fever was a dangerous disease and were assisting to stamp it out by reporting it immediately they found a pig to be ill. If the Board of Agriculture gave more time to allow the disease to develope, strict precautions being taken as to isolation, veterinary surgeons might be able to give more help than at present. He did not wonder Mr. Hanbury said veterinary surgeons in the country knew nothing at all about swine-

fever, and the Board of Agriculture was now sending out a batch of about twenty. One would live in Norwich and he would examine all pigs in Norfolk and decide whether they had swine fever or not. They ought to be relieved of their anxiety as local inspectors, but he was afraid the Board of Agriculture would get into a great muddle with it. Mr. Thurston might, he thought, have dealt more with some of the lesions in swine fever. He had himself found lung lesions very frequently.

Mr. THURSTON said he considered this a complication.

Mr. SHIPLEY said it might be so but he had in cases of suspected swine fever found nothing except pneumonia, but after a certain period true lesions had been developed. Certainly sufficient mention had not been made of the thickening of the skin in chronic swine-fever. The remarks made applied to what might be called a pretty case of swine fever that one could hardly mistake. He would have liked to hear more about cases they visited and found no definite signs. In a case he had not long ago there was a peculiar condition of the liver, practically inflammation of the liver, and a very great deal of serous fluid in the abdomen and no signs of anything else. He agreed with Mr. Thurston that disease of the liver was very frequently found in swine fever. He had never looked for ulceration of the tongue for he had not suspected it, and he would like to know how frequently it was seen.

As to the working of the new Swine Fever Order, he quite agreed with what Mr. Thurston had said of the methods of the Board of Agriculture. If some system of registration was devised, with strict regulations of the actions of dealers in pigs, so as to prevent them hawking about diseased pigs, much good would be accomplished. If he had his way all pig dealers would be registered and any one found acting contrary to the regulations should forfeit his licence, which would prevent him dealing in pigs. He was convinced that small pig dealers were by far the greatest cause of the spread of the disease. When a man had the disease break out on his farm and had perhaps buried one or a couple he went to the market and said to Tom, Dick or Harry he had some pigs they could have cheap. The dealers bought the pigs at some shillings per head less than their real value, took them away, and hawked them all over the place. He knew that the farmer was very wrong, but the dealer must know he was buying something wrong yet he went away and helped to spread the disease. The power to get at the dealers was one of the finest things yet done by the Board of Agriculture, and he thought they were now in the right way to stamp out the disease.

Mr. J. D. OVERED said the subject was certainly of considerable interest, and probably of more interest than profit to them. Nevertheless it lay in the path of duty, and they were expected to discharge that duty to the best of their ability. There was a very great deal of difficulty sometimes attending decision as to whether they had swine fever pure and simple or any other disease to deal with. They might classify the disease into two kinds, the acute form and the chronic form. They sometimes varied considerably according to the degree of intensity with which the disease manifested itself. There could not be any doubt in the mind of a veterinary surgeon who found purely clinical evidence of the disease in the stomach and bowels. Occasionally he had seen ulceration of the trachea and one or two slight ulcerations of the larynx. He had never yet witnessed ulceration of the tongue, but he could not say it did not exist. When they were called to examine a reported case of swine fever they wanted as far as possible to arrive at the whole history of the case for some time back. Often when they made inquiries the answers obtained were a hindrance, but a man formed his own opinion upon the statements. The acute symptoms were generally markedly manifest. So were the clinical evidences when they opened the pig. The chronic cases were more difficult to deal with. Unless they could get somewhat of the previous history and general condition of the pigs, and of those with which they had been in contact, the veterinary was at sea in regard to giving a satisfactory decision as to the disease. Occasionally when they were called to a case when no clinical symptoms were found the conviction was forced upon one that it was swine fever, yet in filling up their return they were expected to report decisively. There was another thing. They had not only to decide whether it was swine fever, but if it was not they had to state what it was In such cases this was a great difficulty. About a fortnight ago he had two cases on the same day, one two or three miles off and the other at some distance. Both were reported as cases of swine fever. In one case he found a large store pig dead and on opening it discovered gastric hæmorrhage from some cause. He fancied the pig had been feeding upon glass, wounded the mucous membrane and bled to death. It was certainly not a case of swine fever. In the other case there were thirteen pigs, three being dead and the others suffering. These were young pigs just off the sow. He considered it was a case of swine fever and made a post-mortem or two, but he did not find the characteristic lesions of swine fever. He told the owner they were suffering from the fever termed swine-pox and advised that three other pigs that evidently would die should be killed. In regard to disease of the lungs his experience warranted him in stating that comparatively recently the disease had assumed a different phase. Some years ago when he was first appointed an Inspector it was the rule to find the lungs extensively diseased and adherent to the living membrane of the ribs. At the present time this was the exception. It used to be termed pneumo-enteritis. There was one post-mortem evidence which they occasionally met—a growth in the endocardium. He had found this substance varying in size from a pea to a small walnut inside the heart, apparently a fleshy growth of the endocardium. The question he thought was already determined whether swine fever was a contagious disease or broke out spontaneously. So far as his humble opinion went, and experience confirmed it, without they had the specific bacillus of swine they got no swine fever. He had no faith in the idea of some people that it was likely to be produced by filth or a want of sanitary measures. It was to be regretted that pigs were not kept under more sanitary conditions, but he did not believe that any system of insanitary measures or treatment would produce swine fever.

With regard to the distribution of swine fever the last Order of the Board of Agriculture was certainly calculated to deal more successfully with the spread of the disease than any measures the Board had hitherto adopted. He had always advocated that dealers should be under strict supervision, for a man having pigs on his premises and losing a portion of them, if of elastic conscience would take care to bury those pigs and that nobody should know it. The next thing was to put the pigs on his cart to be driven over the country and sold for what they will fetch. Over and over again he had traced swine fever to pig dealers, and men who had to get their living by hawking pigs were perhaps greatly tempted. The new Order was a summary measure likely to be of great benefit in preventing the spread of disease. The matter concerned them whether as Inspectors or individuals, and in endeavouring to combat this very troublesome and fatal disease they would not only be doing credit to themselves but conferring lasting benefit upon the agricultural community.

Mr. TURTILL said that if Mr. Thurston would not admit the disease was of a spontaneous origin, could he tell them where the first bacillus came from. They might depend upon it that the organism had its habitat to

which it had as much right as they had to be there. No doubt it had a special affinity for swine and coming into the animals caused swine fever, just as the tetanus bacillus for example. If this thing could spring up and they did not regard it as a spontaneous disease he did not know what else it was to be called. The bacillus was there though not propagated from the swine. When sent for to see pigs he had inspected them and gone through the ordinary ordeal of reporting swine fever. They first made a post-mortem of one or two and sometimes found no lesions. In future when he found them he was going to take care of them, as in two cases he had seen ulceration of the bowels but the next man said there was no swine fever.

Mr. OVERED gave his experience in two typical cases. One was very marked in regard to post-mortem evidence of swine fever and one was not. At a place some distance from his there were six pigs worth about thirty shillings. Two had been lost previously and two were certainly looking ill. He had them killed, and the post-mortem showed slight evidence of ulceration in one and none in the other, but in his opinion it was quite sufficient to confirm his suspicions that he had swine fever case to deal with, and he reported it accordingly. But no order came for slaughter and months after these four pigs continued alive. That seemed to strengthen the suspicion that he had made an error in diagnosis. A month afterwards he was asked to see three pigs, as another had died. Then he condemned the whole of them as suffering from swine fever. He had them killed but only found ulceration to a slight extent in one of them but he had never learned whether the authorities considered it to be a case of swine fever, they certainly never ordered any restrictions. In another case he was persuaded in his own mind that it was a case of swine fever but at a post-mortem on two pigs he could not see any distinctive evidence of disease in the shape of ulcerution, and could only judge by the general appearance of the pigs and their condition at the time he saw them. Four pigs then remained and he tried to persuade the owner to kill these as they were good fresh pigs, London Porkers, but he would not and hung on to them. The result was that he lost two more in a fortnight and then he was sent to make a second visit by the Board of Agriculture. The other two were slaughtered and one found to be affected. He quite confirmed what had been said about the Board of Agriculture looking upon them as fools, but when they met ulceration of the bowels, if that was not a diagnostic of swine fever he did not know what was.

Mr. T. E. AUGER said that when he was called to an outbreak if he could not find the typical lesions, ulceration, or diphtheritic exudation, he returned it as not swine fever; but when they found intense congestion of the stomach and bowels and the clinical symptoms warranted the conclusion it was swine fever though the ulcerations might not have had time to form. They did not often see it in the lungs. He quite endorsed Mr. Thurston's remarks upon this point. It was his experience that at this time of the year they were often called to fat pigs with a skin eruption of purplish appearance, and he would like to know what it was. Lately he had killed one or two affected in this way and it had turned out to be swine fever. Was there any disease closely allied to swine fever? Were there not two distinct diseases?

Mr. THURSTON in his reply on the discussion said the President gave him no problems to solve, and he thanked him for it. Mr. Shipley had commented upon the difficulty of diagnosis. In the first case he mentioned he failed to find any signs in the pigs he had killed. It would be interesting to know whether he had an opportunity of making a post-mortem on the pigs that died from the disease, and whether he found any lesions in them Young pigs when affected with swine fever died very suddenly and he would hardly expect to find the characteristic lesions in them. There was a mode of infection common to the lot and they were all exposed to one method of infection. They might be attacked and die so suddenly as to show no symptoms other than diphtheritic inflammation of the small intestines or acute gastritis. With reference to the filling up of the forms for the Board of Agriculture the remarks which had been made corroborated what he had said about that Board's special way of doing things. Certainly it corresponded with the way it had treated pig dealers in the past. He should think they could scarcely have consulted their own veterinary advisers when they drew up such a form as they expected to be filled up. If they had done so their veterinary advisers, as practical men, would have known that some of the questions were practically unanswerable. With reference to pneumonia, he said it was not met with as a complication in swine fever in contradistinction to what used to be the prevalent opinion that swine fever was not met with except with pneumonia. Wherever they had enteric lesions they also had pneumonia. Swine fever, as Mr. Overed had said, at one time had the name of pneumo-enteritis. In regard to lesions in different parts of the body, he had been very fortunate in the fact that in his last two years at College Professor M'Fadyean was experimenting largely with swine fever, and men in their third and fourth year had an opportunity of seeing a good many abnormal lesions which would hardly be met with by a practitioner under ordinary circumstances. No doubt the Professor was feeding with virus of very different degrees of virulence which accounted for the variety of lesions shown. It was often a greater problem to say what the disease is than to say whether it was swine fever or not. He would not like to suggest that any member had mistaken salt poisoning for swine fever, but a young practitioner straight from college and who had not met a case of brine poisoning might be led to say some very funny things. As to lesions of the endocardium referred to by Mr. Overed, they often met with a cauliflower like growth of the endocardium and valves of the heart. Prof. M'Fadyean had distinctly referred to this as the sequel of erysipelas and not swine fever. Mr. Turtill propounded a puzzle when he asked where the first swine fever bacillus came from, and he would answer that when Mr. Turtill told him where the first man came from. In reply to Mr. Turtill's other point he could only refer him to his answer to Mr. Shipley. Where they had very young pigs which died very suddenly they could hardly expect ulceration, but they would have gastritis or diptheritic lesions.

Mr. SHIPLEY said his question was as to when they found no lesions.

Mr. THURSTON said he had never made a post-mortem and found no lesions. He thought every one would agree that swine-fever was not absolutely fatal. They found varying forms from acute to subacute. The case cited by Mr. Shipley was a subacute case.

He thanked the members for the way in which they had listened to the paper, but some older member with more practical knowledge should have been asked to open the discussion.

Mr. OVERED said he did not refer to the absolute fatality of swine fever, and if Mr. Thurston so understood him it was a mistake; but he did not answer Mr. Auger's question as to whether the skin lesions he met with in pigs were of a fatal nature.

Mr. THURSTON said it might have been urticaria due to very high feeding in hot weather.

The HON. SEC., proposing a vote of thanks to Mr. Thurston, said they were greatly obliged to him because he gave the paper at short notice, owing to a gentleman on whom they had relied being unable to do so.

The PRESIDENT, who seconded, said they had all enjoyed the paper and had a capital discussion. Personally he was much indebted to him.

Mr. THURSTON, in acknowledgement, said it had afforded him a great deal of pleasure to read the paper. He considered it was the reader of the paper who gained the most information.

The meeting ended with a vote of thanks to the President on the proposal of Mr. Shipley, seconded by Mr. Overed.

This closed the business meeting and the President then received the wives of members, and the rest of the afternoon was spent in pleasant social fashion.

F. B. O. TAYLOR, *Hon. Sec.*

THE R.V.C. VETERINARY MEDICAL ASSOCIATION.

At the nineteenth annual general meeting the following officers were elected for the ensuing session :—*President*—Prof. Woodruff. *Hon. Treas.*—Prof. Shave. *Hon. Sec.*—Mr. W. H. Chase. *Assist. Sec.*—Mr. Guy Sutton.

The Secretary's report for the past session showed the Association to be in a most flourishing condition, and the essays read to have been of an exceptionally high standard. The medals offered for competition by the Association were won by the following :—

For the best essay read and defended before the Association—

1st. Silver medal—Mr. J. Parker. 2nd. Bronze medal—Mr. S. F. G. Pallin. 3rd. Bronze medal—Mr. H. F. Whitemore.

For the best written examination in all the subjects of the College curriculum :—

Silver medals.—*Class A.*—Mr. L. E. W. Bevan. *Class B*—Mr. A. Leese. *Class C*—Mr. H. E. Gibbs. *Class D*—Mr. Robards.

For the best practical examination in Class D:—

1st. Prize—Silver medal—Mr. W. H. Chase.

2nd Prize—Bronze medal—Mr. S. F. G. Pallin.

During the present session the following papers will be read at the meetings :—Mr. Haigh, "The Veterinary Surgeon in connection with the Sale of Horses"; Mr. Donnelly, "The Veterinary Surgeon and his Clientéle"; Mr. Cornish-Bowden, "Heredity"; Mr. Craig, "Tuberculosis"; Mr. Sutton, "Neurectomy"; Mr. Littlejohn, "Glanders"; Mr. Watson, "Fistulæ and Sinuses"; Mr. Townsend, "Laminitis"; Mr. Gibbs, "Colliery Practice"; Mr. Hilas, "Rearing Young animals"; Mr. Parsons, "Veterinary Education"; Mr. Godbold, "Swine Fever"; Mr. Rutherford, "Pink Eye"; Mr. Spreull, "South African Diseases." Papers will also be read by Professor Bottomley, Messrs. Green, Magee, and Dodd.

GUY SUTTON, *Assist. Sec.*

"THE MICRO-ORGANISM OF DISTEMPER IN THE DOG, AND THE PRODUCTION OF A DISTEMPER VACCINE."

By S. MONCKTON COPEMAN, M.A., M.D., F.R.C.P.

Communicated by Sir M. Foster, Sec. R.S. Received November 14,—Read December 6, 1900. [From the proceedings of the Royal Society, vol. 67.]

(From the Brown Institution.)

Distemper is so fatal a disease of dogs, more particularly of such as are highly bred, that a method of preventing invasion by the disease has always been a desideratum.

As the result of investigations into the bacteriology of this disease, carried out in continuance of those commenced in my laboratory at St. Thomas's Hospital about ten years ago by the late Everett Millais, I find that the specific micro-organism concerned is a small coccobacillus, which stains with the ordinary aniline dyes, but is decolorised by the method of Gram. It grows readily on the surface of agar at body temperature; the individual colonies when isolated by the method of plate-culture having a greyish, glistening, semi-translucent appearance by reflected light, and a light-brownish tint by transmitted light. The general form is circular, but occasionally, and specially in primary growths, the edge is somewhat irregular. The microbe also grows well in beef-broth, causing at first a general turbidity. Later on, a deposit falls to the bottom of the tube, and the supernatant liquid becomes somewhat clearer. In cover-glass preparation from broth cultures the bacilli are not unfrequently found united together to form chains, sometimes of considerable length. The bacillus is capable of growing, though comparatively slowly, on solidified blood serum, and also in milk, which does not become coagulated. On potato it develops with difficulty, but now and again, after some days' incubation, a moist-looking streak of a pale buff colour may be observed. If gelatine be inoculated, growth occurs slowly at the temperature of the room, and, after a time, the medium tends to become liquefied.

Growth on agar can be carried on week after week for a great number of generations, but after a dozen removes or so its morphological and biological characteristics are found to have become somewhat altered. An account of these variations and of the pathological histology of the disease I propose to publish subsequently.

In similar fashion the pathogenetic properties of the micro-organism appear to become gradually weakened, but by repeated intra-peritoneal inoculations in the guinea-pig its virulence may be regained.

The injection beneath the skin of the abdomen in a dog weighing 7 kilos. of 1 c.c. of a broth culture seven days old, derived in turn from an agar sub-culture, induced an attack of distemper, which terminated fatally in about a week from the time of inoculation. In a large number of other dogs experimented on by Millais or myself a generally non-fatal attack has followed on inoculation of the nasal mucous membrane.

Specially characteristic of the disease intentionally produced is the fact that the animal exhibits during the attack a marked and progressive loss of weight. Of other symptoms of the malady so well known to all dog-breeders, those which are usually most marked are the result of more or less acute inflammation of the various mucous surfaces.

On post-mortem examination I have generally found the whole respiratory tract to be specially affected, the lungs sometimes showing pneumonic consolidation throughout almost their entire extent. The trachea is apt to be congested, and to contain a quantity of mucus, while the eyes and nose are blocked with a purulent or muco-purulent discharge. By making agar plate-cultivations from the exudation from the lungs, from the tracheal mucus, or from the nasal secretion, the specific bacillus may be isolated—from the first two situations, often in almost pure culture.

Examining animals which have died from distemper, whether resulting from experimental inoculation or contracted in the ordinary fashion, I have never succeeded in obtaining cultures either from the blood obtained from the heart with aseptic precautions, or from the liver, the gall bladder, the kidney, or the spleen. Pressure of other work since joining the Medical Staff of the Local Government Board, has prevented my having the opportunity of examining even inoculated animals at intermediate stages of the disease in severe forms, or, doubtless, it might have been found possible to isolate the bacillus from one or other of these situations. In one instance, in which the blood vessels of the brain were

found to be much congested, inoculation of a tube of sloping agar with a large platinum loopful of cerebro-spinal fluid, well spread over the surface of the agar, resulted in the appearance of half a dozen isolated colonies of a pure culture of the distemper bacillus.

By heating a broth culture of the bacillus at 60° C. for half an hour, and subsequently adding a small quantity of carbolic acid as a preservative, a vaccine is obtained which acts in similar fashion to those devised by Haffkine and Wright for use in the prevention of plague and enteric fever respectively. The vaccine may be standardised after the manner originally suggested by Wright in connection with his work on enteric fever.

The dose must obviously vary according to the size of the dog, but, as a guide, it may be mentioned that I have found, in three instances, that the injection of 2 c.c. of the sterilised culture of the bacillus is apparently sufficient to protect fox-terrier puppies weighing about 1½ kilos. against atack by distemper, while an unprotected puppy in the same batch contracted the disease on introduction of an affected dog. I find also that guinea-pigs can be protected in this way against the effects of a dose of living culture which would ordinarily prove fatal in about forty eight hours. As regards the exact length of time, however, during which such protective effect may last, no definite statement can as yet be made, but a series of tests on a large scale are in process of being carried out by dog-breeders in this country, in Germany, and in America.

INTRAVENOUS INJECTIONS OF CORROSIVE SUBLIMATE IN FOOT-AND-MOUTH DISEASE.

In his inaugural address to the Eleventh Italian Medical Congress which began its sittings at Pisa on October 27th Professor Baccelli occupied himself chiefly with his new method of treatment for foot-and-mouth disease in cattle. He related how, on his appointment some months ago to the Ministry of Agriculture, he had found that Italy was suffering from a s evere visitation of epizootic aphtha, and the idea had occurred to him that intravenous injections of a parasiticide might have beneficial effects in this as in other diseases. He recalled how, 12 years ago, he had employed with astonishing results intravenous injections of hydro-chlorate of quinine in pernicious malaria, and later, also with success, similar injections of carbolic acid for tetanus, and he determined to make a trial of corrosive sublimate in foot-and-mouth disease. Happening soon afterwards to be at Civita Vecchia and aware that there were cases in that neighbourhood he instructed the municipal veterinary surgeon, Dr. Croce, how to apply the method, advising for young animals doses of from two to four centigrammes (from one-third to two-thirds of a grain) in each injection, according to the case ; for adult animals from four to six centigrammes (from two-thirds to one grain) ; and for bulls from six to eight centigrammes (from one to one and a quarter grains) ; the solution containing for every centigramme of sublimate 75 milligrammes of chloride of sodium. The number of diseased animals so injected was 52, and all were rapidly and completely cured. Shortly afterwards he sent Dr. Croce to Sardinia where the disease had affected 26 animals. All of these were treated similarly and cured in the same speedy and thorough way. In other parts of Italy identical results were obtained by another veterinary surgeon, Dr. Cosea. Veterinary surgeons in general were doubtful about the safety of mercurial preparations in cattle and were almost averse to it, but these experiments proved that this idea was merely a prejudice, the fact being that cattle were singularly tolerant of mercury, which, moreover, was peculiarly well adapted for the treatment of aphtha, passing as it did directly to the chief seat of the disease—namely, the mouth—where it could be demonstrated in the saliva after the lapse of only one minute. Inquiries made by Professor Baccelli in regard to other methods of cure practiced in Italy and elsewhere for foot-and-mouth disease showed that his mode of treatment was the best, and he was convinced that it would be the means of effecting an enormous pecuniary saving to the country. At its final sitting on October 31st the Congress resolved to make the subject of "Intravenous Therapeutics" the leading theme of its next meeting, which will be held at Rome.

Nov. 2nd.—*The Lancet.*

The Uses of Chinosol.

NOTTEBAUM (*Deut. med. Woch.*, August 15th, 1901) considers chinosol an especially valuable preparation, in that it combines antiseptic with styptic properties. Clinically he has observed the latter property in the case of a wound of the head with profuse parenchymatous hæmorrhage, in two cases of severe epistaxis, and troublesome capillary hæmorrhage from the surfaces of granulating wounds. For the epistaxis he used wool tampons soaked in a 1 in 500 solution, for the wound surface a 1 in 1,000 solution. Ostermann has used a 1-2 to 1,000 solution in uterine hæmorrhage, in parenchymatous hæmorrhage from the cervix and in wounds of the vagina. Its hæmostatic properties are not due to the coagulation of albuminous fluids, for chinosol does not coagulate albumen at the ordinary temperatures. Kossmann has drawn attention to the advantages chinosol has over sublimate ; its antibacterial action is equal to that of the latter ; it is non-poisonous, and dissolves blood clot from the crevices of the skin, while sublimate fixes it. Chinosol is phenol-free potassium-oxychinolin sulphuric acid. From solutions in water, in which under all conditions it is only slightly soluble, oxy-chinolin sulphate and potassium sulphate are precipitated. Possibly the astringent action is due to the potassium sulphate. In addition to the bactericidal and astringent action, chinosol also has the property of lessening secretion. Lenhartz has shown this with regard to purulent collections in the pleural and peritoneal cavity, and Ostermann praises its use as a dressing for tamponing abscess cavities. The gauze may be left two days in the wound, even in fœtid collections of pus. Nottebaum has used it in addition in two cases of catarrh of the bladder with good effect. Given internally, chinosol has been stated to be antipyretic and antibacterial, but Nottebaum found that objectionable symptoms followed its administration. Certain chemical peculiarities must be noted ; it is precipitated by alkaline water and by soap, so that if it is used to disinfect hands or skin after washing with soap, distilled water must first be employed. Solutions must be kept in glass receptacles, as chinosol acts on metal, but nickel-plated instruments are not attacked. The chief disadvantage to its general use is the readiness with which it is precipitated from solutions —*The Brit. Med. Journal.*

Messrs. Willows, Francis, and Butler, and Messrs. Mackey & Co.

As notified in our advertisement pages the business of Messrs. Mackey, Mackey & Co, Limited, of Bermondsey, has been amalgamated with that of Messrs. Willows, Francis, Butler and Thompson. This should prove a distinct convenience to country practitioners, and we may congratulate Messrs. Willows, Francis and Butler on this sign of vigorous extension.

In January, 1898, Messrs. Willows, Francis and Butler, then of High Holborn, W.C., joined forces with Messrs. Henry Ayscough Thompson and Son, of Worship Street, E.C. A month after a fire occurred at the Holborn

premises, as a consequence of which, finding their temporary premises too small, the combination bought the well-known business of Messrs. Herrings and Co., of Aldersgate Street, E.C. and now Messrs. Mackey, Mackey and Co., Limited, have been included. The firms concerned are all old-established houses, Messrs. Willows, Francis and Butler's business dating from 1751 ; that of Messrs. Herrings from 1798 ; that of Henry Ayscough Thompson & Son, from 1848 ; whilst that of Messrs. Mackey, Mackey and Co. was founded in 1873 by the late Mr. John Brunt Mackey.

Presentation to Mr. A. C. Wild.

A meeting was held by the students of the R.V.C., Camden Town, at which it was suggested to make a presentation to Mr. A. C. Wild, who has held the position of Demonstrator of Anatomy at the College for 18 years. Members of the profession wishing to contribute should communicate with the Secretary.

H. D. Sones, *Secretary.*
Royal Vet. Coll., H. O'Rorke, *Treas.*
Great College Street, Camden Town, N.W.

Personal.

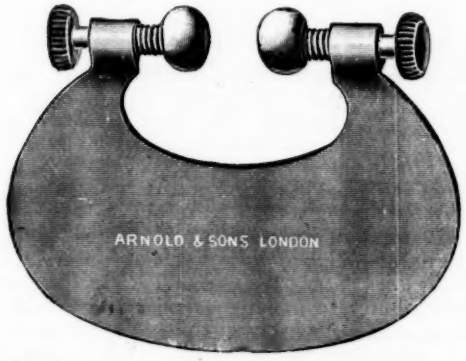
The marriage between Captain F. B. Drage, Royal Horse Guards and Miss Lucy Griffin Christie, of Kansas City, U.S.A., took place there on Nov. 12.

Deaths.

Fairer, Nov. 4.—Sara Ellen (Nellie) the beloved wife of Harold Fairer, M.R.C.V.S., and only daughter of Joseph Welsby, F.R.C.V.S., of West Derby, Liverpool.

Walley.—On the 2nd inst. suddenly at Market Drayton Elizabeth, widow of the late Thomas Walley, Principal of the Royal (Dick) Veterinary College, Edinburgh, aged 55 years.

"MILKING PREVENTER."



Having been the unfortunate possessor of one of those bugbears which are the cause of trouble, annoyance and monetary loss to all keepers of cows, more especially to those who depend on the amount of milk produced for a livelihood, I endeavoured to find something which without being very unsightly would prevent the animal in question from milking herself. With this object in view Messrs. Arnold and Sons, of West Smithfield, London, have made for me a very elegant little appliance which acts in the desired way, and does all which is required of it.

The "Preventer" is an ovolo disc with two knobs attached to springs placed at the horns. These knobs are intended to touch the septum nasi without pressing it. It is made of aluminium and is consequently of extreme lightness, it is non-corrosive, not acted upon by the food or saliva. It is made in various sizes in order that it may be obtained to fit various sizes of cows, and may be also applied to calves or half-grown animals.

It can be readily applied and removed, and having no sharp projections, etc., does not irritate. The animal soon becomes accustomed to it being in position and accommodates itself when feeding off the ground or manger without the removal of the appliance.

It is most simple and yet perfect in its action. When the animal approaches its mouth to the teat the "Preventer" pushes the teat away and the more the animal advances its mouth the further the teat is pushed away.

J. H. Wilson, M.R.C.V.S.

OBITUARY.

Edward G. P. Arnall, M.R.C.V.S., Bodmin.
Graduated, Lond., 1861.

Bodmin learnt with much surprise and regret on Sunday (Nov. 3) of the serious illness of Mr. George Arnall, retired veterinary surgeon, and towards midnight he succumbed to diabetes, of which he has been a subject at intervals for a few years. The deceased hailed from Camelford, and during the rinderpest in Cornwall, between 30 and 40 years ago, he was appointed an inspector by the Government authority. Eventually, he settled in Bodmin, and until recently, when he retired, he enjoyed an extensive practice and was highly respected. In politics the deceased was a Conservative, and as a Churchman he assisted at the recent bazaar. Though invited on several occasions, he never took any active part in local public work. He was 61 years of age. He leaves a widow and two daughters, who are at school, with whom there is wide spread sympathy.

The funeral took place at Camelford on Thursday. Many of the leading inhabitants of Bodmin followed the hearse to the head of the town, and several of the business establishments were partially closed.—*Bodmin Guardian.*

CORRESPONDENCE.

ON GETTING A PRACTICE.

Sir,

On reading the article on "Getting a Practice" by "the Old Obadiah" I wondered if this was the same "Old Obadiah" that wrote once before in your paper that a £10 note was all that was necessary in the monetary line to start a practice.

I served under a rare good practical man with a fine practice once who always used to say no practice was worth looking at that didn't return £500 a year at least. I am inclined to agree with him. To make a practice in our days must be harder than it was 20 or 30 years ago.

The country practices which "Old Obadiah" made represent a great deal of effort doubtless expended for very little result. It would have been interesting to hear what the net profit to "Old Obadiah" was for the amount of energy, foresight and anxiety that the making of those practices cost him.

When some little boys were asked after a long day's fishing how many fish they had caught, one youngster replied "well we haven't caught *any* fish, but we've drowned a lot of worms," and this seems to be the case with many practitioners who conduct country practices that need making.

You can gain all the experience that you can obtain in a country practice of this kind by acting as assistant in a good big mixed practice. You can gain it without rusting and without the science and art of veterinary medicine and surgery deteriorating. Provided you have a good principal who is an equitable fair dealing man you can gain it pleasantly. You can also gain it without half the worry and anxiety to yourself attendant on making a practice. The net result of it all may be better for you. The idle hours in a little country practice are many, and it is good for men to be busy, it sharpens their intellects, it is profitable to them, if they are observant men, from a scientific point of view, and personally I would say that an assistant from a busy practice is a better man professionally than a man who has made a country practice returning the sums "Old Obadiah" mentions.

One paragraph in "Old Obadiah's" article I entirely disagree with and that is "The canine surgeon will have to teach himself, as there are no text book (books ? G.M.) worth his perusal, and a study of women would help him more effectually. Now there is a good text book on canine surgery by Prof. Hobday. As regards the study of women, that is profitable or unprofitable according to the point of view from which we study them.

Take my tip, and I think you will find that to take on assistantships in good practices, to take on *locum tenens* places, and to bide one's time is, failing a Government appointment, much better than going into some poky little country place to start a practice with only a recently dated diploma to back one up.—Yours truly,

GLADSTONE MAYALL, M.R.C.V.S.

PROF. CROOKSHANK'S ADDRESS.

Sir,

On the axiom "a cat may look at a king," I, *felis communis*, purring more or less (rather less than more) contentedly, venture to look at a few of the sentiments expressed by one for whom I have the highest esteem as a teacher, and consider it one of my greatest advantages to have been his pupil and venture even now to claim to be his disciple.

"R.V.C. stands in the first rank" as an alumnus. Supplement this by saying "*Primus inter pares*" If I may apply a gender masculine to *Alma Mater* without outraging the Latin tongue, but beyond this first rank where are the rest of the Army? Is it the thin red line upon which devolves the prestige of Britain ? Are London, Edinburgh, Glasgow, and Dublin but the sides of a hollow square, staunch and true, no doubt, but woefully in need of the help rendered by foreign allies in their battle against disease, prejudice and the spirit of devil-may-care, but Professors do not fill your square with *dilletanti*. Veterinary science, as you say, requires most of the moral virtues which may be summed up as "grit," and the country gentleman, land agent, or councillor will be better fed on veterinary pap in the form of a popular lecture than by taking a hasty meal of the strong meat of Camden Town. Our country practitioners still struggle to live, do not for mercy's sake inflict on them additional miseries in the form of dyspeptic squireens groaning in the agony of ill digested college courses ; does not Horace warn us *Ne sutor, etc.* ?

Now, having kicked over the traces, if a cat can do so, I fall once more into line and say bravo to the suggestion that our students should understand their neighbour's languages and enjoy the pleasures of a convivial table rather than the dry bones of geometry, etc., which if necessary, can always be referred to, and the vision of a co-operative tour makes one long to become a veterinary "cook," and my daily practice requiring as it does the constant use of six languages is fitting me for the post. N.B. Squires, aldermen, etc., etc., personally conducted at favourable rates so as to enable me to offer greater facilities to veterinarians. But joking apart, education committees note that European catalogues of instruments, etc., are polyglot, not so text books, give your students a chance to live a live professional life. Once in my tutorial experience a man came to me and said he wanted to be a V.S., but there were difficulties he could not manage, would I coach him ? Mentally I rapidly reviewed my anatomy, physiology, etc., and said yes, whereupon he said his subjects were Euclid and Algebra. Next exam. he got honours in them and is a V.S., but when we meet now we don't discuss angles or equations. Living in a country where I daily see the old country being ousted by the man who speaks more than his mother tongue, I assert, but with the deepest regret, that the English school education is a wooden-headed, iron bound system of folly, and our descendants will find it so to their bitter cost.

Higher professional education, D.P.V.M. ! No, it savours too much of F.V.M.A. or a ship's signal, but the idea is right if we can knock off a few letters. We are overburdened by our tail of initials now, we want the thing however, and must have it sooner or later, and the R.C.V.S. can look after itself as the R.C.S. and R.C.P. have done. Some years ago I applied to the University of which I am a graduate for permission to sit for D.P.H. and was refused for lack of a medical diploma. Council of R.C.V.S. don't let the next generation be snubbed, and don't let your apathy miss the opportunity of hitting while the iron is hot.—Yours truly,

THE DOCTOR SAHIB.

"ETIQUETTE—A CIRCULAR AND HONESTY."

Sir,

I see no reason on my part for further correspondence on this matter. If Mr. Banham will publish the circular in question the profession will be able to judge between us.—Yours faithfully,

J. W. THOMAS.

ETIQUETTE.

Sir,

What sticklers for etiquette these military men are ! ? If Veterinary Captain J. A. Meredith wanted to snub Mr. Antonio L. Farrant (he is particular about the Antonio L. in each reference to him). Why did he not object a few weeks ago to a letter in the V.R.. in which Mr. Farrant signed himself Veterinary Lieutenant ? If Mr. Farrant has not been gazetted, how came he to assume the rank of Lieutenant ? If he has got his well earned commission, why does Vet. Capt. Meredith object to the affix of "Veterinary Officer." Mr. Farrant is not a veterinary private, or corporal, serjeant, serjeant-major, or colour-serjeant, nor a gunner, while attached to the R. H. A., and if employed as a civil V.S. he has as much right to be called "officer" as a man who hunts up truants for the School Board ; or the police officer who assists an inebriate to a place of seclusion where he can study cell formation. Perhaps the *relieving* officer most nearly resembles a C.V.S. who is successful with his cases, and at the same time sets free some member of the pipe-clay brigade to eat fire at the front.—Yours, etc.

HAROLD LEENEY, M.R.C.V.S,
Formerly Veterinary "Officer," Hants Yeomanry.

COMMUNICATIONS, BOOKS, AND PAPERS RECEIVED.—Lt.-Col. J. A. Nunn, Lt. A. J. Williams, Messrs. G. Mayall, F. Hobday, E. R. Forbes, Harold Leeney, J. Paton, S. L. Stevens, A. Spreull, J. W. Thomas, C. Pack, A. C. Forbes, J. Millward.

"*The Transport of Horses by Sea*," by Lt. E. E. Martin, (Calcutta, Thacker, Spink & Co.): *The Bodmin Guardian, The Freeman's Journal, The Birmingham Daily Post, The Daily Telegraph.*